

What is Claimed is:

1. A method for reducing an immune response against an alloantigen, comprising:  
contacting immune effector cells with at least one member selected from the group  
5 consisting of mesenchymal stem cells and a supernatant from a mesenchymal stem cell  
culture in an amount effective to reduce the immune response.

2. The method of claim 1 wherein the effector cells are T cells.

10 3. A method for preventing or reducing reactivation of activated T cells comprising:  
contacting T cells that have been previously activated by an alloantigen with at least  
one member selected from the group consisting of mesenchymal stem cells and a  
supernatant from a mesenchymal stem cell culture in an amount effective to suppress  
restimulation of said activated T cells.

15 4. A method of reducing an immune response to a donor transplant, comprising  
treating the recipient with at least one member selected from the group consisting of  
mesenchymal stem cells and a supernatant from a mesenchymal stem cell culture in an  
amount effective to reduce an immune response in the recipient to the transplant.

20 5. The method of claim 4 wherein the member is mesenchymal stem cells  
autologous to the recipient.

25 6. The method of claim 4 wherein the member is mesenchymal stem cells  
allogeneic to the recipient.

7. The method of claim 6, wherein the mesenchymal stem cells are obtained from  
the donor of the transplant.

30 8. The method of claim 4 wherein the member is mesenchymal stem cells  
allogeneic to both the donor of the transplant and the recipient.

9. The method of claim 4 wherein the member is mesenchymal stem cells xenogeneic to both the donor of the transplant and the recipient.

10. The method of claim 4, wherein the transplant is skin.

11. The method of claim 4, wherein the member is mesenchymal stem cells further modified to express a molecule that induces activated T cell death.

12. The method of claim 11 wherein the molecule is selected from Fas ligand and CD27.

13. The method of claim 4, wherein the member is mesenchymal stem cells administered to the recipient prior to administration of the transplant.

14. The method of claim 4, wherein the member is mesenchymal stem cells administered concurrently with administration of the transplant.

15. The method of claim 4, wherein the member is mesenchymal stem cells administered as a part of the transplant.

16. The method of claim 4, wherein the member is mesenchymal stem cells administered after the transplant.

17. The method of claim 4 wherein the member is mesenchymal stem cells administered to the transplant recipient to treat rejection of the transplant by the recipient.

18. The method of claim 4, wherein the member is human mesenchymal stem cells.

19. The method of claim 4, further comprising administering to the recipient immunosuppressive agents.

20. The method of claim 4 wherein the transplant is a solid organ.

21. The method of claim 20 wherein the solid organ is selected from heart, pancreas, kidney, lung or liver.

22. A method of reducing an immune response caused by a donor transplant, comprising contacting the transplant with tissue obtained from the transplant recipient and then contacting the donor transplant with mesenchymal stem cells in an amount effective to reduce an immune response against the recipient by the donor transplant.

23. The method of claim 22, wherein the mesenchymal stem cells are allogeneic both to the donor transplant and to the recipient of the transplant.

24. The method of claim 22, wherein the mesenchymal stem cells are autologous to the recipient of the transplant.

25. The method of claim 22, wherein the mesenchymal stem cells are autologous to the donor transplant.

26. The method of claim 22 wherein the donor transplant is bone marrow.

27. The method of Claim 22 wherein the donor transplant is peripheral blood.

28. The method of claim 22, further comprising administering to the recipient immunosuppressive agents.

29. The method of claim 22 wherein the mesenchymal stem cells are modified to express a molecule that induces activated T cell death.

30. The method of claim 29, wherein the molecule is selected from Fas ligand and CD27.

31. A method of treating a transplant recipient for graft versus host disease, comprising treating the recipient of a donor transplant with at least one member selected from the group consisting of mesenchymal stem cells and a supernatant from a mesenchymal stem cell culture in an amount effective to reduce an immune response  
5 against the recipient by the transplant.

32. The method of claim 31, wherein the member is mesenchymal stem cells autologous to the recipient.

10 33. The method of claim 32 wherein the member is mesenchymal stem cells autologous to the donor transplant.

34. The method of claim 31, wherein the member is mesenchymal stem cells allogeneic to both the donor and recipient.

35. The method of claim 31, further comprising administering to the recipient immunosuppressive agents.

36. A composition for reducing an adverse immune response against a donor transplant, comprising at least one member selected from the group consisting of human mesenchymal stem cells and a supernatant from a mesenchymal stem cell culture in an amount effective to inhibit or reduce an adverse immune response against a donor transplant, and a pharmaceutical carrier.  
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25 37. The composition of claim 36 wherein the member is mesenchymal stem cells autologous to the recipient.

38. The composition of claim 36 wherein the member is mesenchymal stem cells autologous to the donor.

30 39. The composition of claim 36 wherein the member is mesenchymal stem cells allogeneic to both the recipient and the donor.

40. The composition of claim 36 wherein the member is mesenchymal stem cells xenogeneic to both the recipient and the donor.

5 41. A composition for reducing an adverse immune response against a graft recipient caused by a graft, comprising at least one member selected from the group consisting of human mesenchymal stem cells and a supernatant from a mesenchymal stem cell culture in an amount effective to reduce the adverse immune response against the graft recipient caused by the graft, and a pharmaceutical carrier.

10 42. The composition of claim 41 wherein the member is mesenchymal stem cells autologous to the recipient.

15 43. The composition of claim 41 wherein the member is mesenchymal stem cells autologous to the donor.

20 44. The composition of claim 41 wherein the member is mesenchymal stem cells allogeneic to both the recipient and the donor.

25 45. The composition of claim 41 wherein the member is mesenchymal stem cells xenogeneic to both the recipient and the donor.

46. The process of Claim 1 wherein the supernatant is obtained from mesenchymal stem cells co-cultured with T cells undergoing a mixed lymphocyte reaction.